

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original): A wireless transmit/receive unit (WTRU) comprising:
(a) a radio receiver comprising a plurality of analog receiver components;
(b) a radio transmitter comprising a plurality of analog transmitter components;
(c) at least one controller; and
(d) a plurality of compensation modules in communication with the controller, the modules for correcting radio frequency (RF) parameter deficiencies that exist in at least one of the radio receiver and the radio transmitter, whereby RF parameter requirements established for one or more of the analog receiver and transmitter components are relaxed.

Claims 2-11 (canceled)

12. (currently amended): The WTRU of claim 1 further comprising:
(e) (~~a~~) at least one analog to digital (ADC) gain control circuit in communication with the radio receiver; and
(f) (~~b~~) at least one low pass filter (LPF) in communication with the ADC gain control circuit and at least one of the compensation modules, wherein the analog receiver components are introduced to a digital domain established to enhance the performance characteristics of the radio receiver.

13. (currently amended): The WTRU of claim 12, wherein the ADC gain control circuit enhances dynamic range of the radio receiver and compensates for channel loss variation, the ADC gain control circuit comprising:

(i) at least one logarithmic amplifier for compressing the dynamic range of analog signals received from the radio receiver to adjust the dynamic range of the analog signals;

(ii) at least one analog to digital converter (ADC) in communication with the logarithmic amplifier, the ADC for digitizing the output of the logarithmic amplifier; and

(iii) at least one look up table (LUT) in communication with the ADC, wherein the LUT provides anti-logarithmic functionality ~~and~~ in order to decipher the digital domain output by the ADC.

14. (original): In a wireless system including a radio receiver comprising a plurality of analog receiver components and a radio transmitter comprising a plurality of analog transmitter components, a method for enabling radio frequency (RF) parameter requirements established for one or more of the analog receiver and transmitter components to be relaxed, the method comprising:

(a) providing a plurality of RF parameter compensation modules;

(b) detecting the existence of one or more RF parameter deficiencies that exist in at least one of the radio receiver and radio transmitter; and

(c) allocating one or more of the RF parameter compensation modules to correct the RF parameter deficiencies.

Claims 15-24 (canceled)

25. (original): A wireless communications system comprising:

- (a) a radio receiver comprising a plurality of analog receiver components;
- (b) a radio transmitter comprising a plurality of analog transmitter components; and
- (c) at least one digital baseband (DBB) compensation processor including a plurality of radio frequency (RF) compensation modules for correcting RF parameter deficiencies that exist in at least one of the radio receiver and the radio transmitter, whereby RF parameter requirements established for one or more of the analog receiver and transmitter components are relaxed.

Claims 26-35 (canceled)

36. (currently amended): The system of claim 25 further comprising:

- (d) ~~(a)~~ at least one analog to digital (ADC) gain control circuit in communication with the radio receiver; and
- (e) ~~(b)~~ at least one low pass filter (LPF) in communication with the DBB compensation processor and the ADC gain control circuit, wherein the analog receiver components are introduced to a digital domain established to enhance the performance characteristics of the radio receiver.

37. (currently amended): The system of claim 36, wherein the ADC gain control circuit enhances dynamic range of the radio receiver and compensates for channel loss variation, the ADC gain control circuit comprising:

- (i) at least one logarithmic amplifier for compressing the dynamic range of analog signals received from the radio receiver to adjust the dynamic range of the analog signals;

(ii) at least one analog to digital converter (ADC) in communication with the logarithmic amplifier, the ADC for digitizing the output of the logarithmic amplifier; and

(iii) at least one look up table (LUT) in communication with the ADC, wherein the LUT provides anti-logarithmic functionality and in order to decipher the digital domain output by the ADC.

38. (original): An integrated circuit (IC) for use in a wireless communication system including a radio receiver comprising a plurality of analog receiver components, and a radio transmitter comprising a plurality of analog transmitter components, the IC comprising:

(a) at least one controller; and

(b) a plurality of compensation modules in communication with the controller, the modules for correcting radio frequency (RF) parameter deficiencies that exist in at least one of the radio receiver and the radio transmitter, whereby RF parameter requirements established for one or more of the analog receiver and transmitter components are relaxed.

Claims 39-48 (canceled)

49. (currently amended): The IC of claim 38 further comprising:

(c) ~~(a)~~ at least one analog to digital (ADC) gain control circuit in communication with the radio receiver; and

(d) ~~(b)~~ at least one low pass filter (LPF) in communication with the ADC gain control circuit and at least one of the compensation modules, wherein the analog receiver components are introduced to a digital domain established to enhance the performance characteristics of the radio receiver.

50. (currently amended): The IC of claim 49, wherein the ADC gain control circuit enhances dynamic range of the radio receiver and compensates for channel loss variation, the ADC gain control circuit comprising:

(i) at least one logarithmic amplifier for compressing the dynamic range of analog signals received from the radio receiver to adjust the dynamic range of the analog signals;

(ii) at least one analog to digital converter (ADC) in communication with the logarithmic amplifier, the ADC for digitizing the output of the logarithmic amplifier; and

(iii) at least one look up table (LUT) in communication with the ADC, wherein the LUT provides anti-logarithmic functionality ~~and~~ in order to decipher the digital domain output by the ADC.